## REMARKS

Claims 1-3 and 6-7 remain in the application. Support for the amendment may be found in FIG. 1 and the corresponding disclosure. Applicant asserts that no new matter has been added. Reconsideration of the Application is hereby requested

### Claim Rejections

***Rejections Under 35 U.S.C. § 103***

*Rejection of Claims 1, 3, 6 and 7:*

Claims 1, 3, 6 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Pless et al. (6,597,954) in view of Cosgrove Jr. et al. (4,533,346). Pless et al. disclose a system in which electrodes are implanted in the brain. [Pless, col. 16, ll. 8-12] Applicant, on the other hand, employs skull screws that *do not invade the brain*. Such invasion is unnecessary with Applicant's invention, because it receives impulses from generalized regions of the brain, and does not require the precise placement associated with an invasive electrode.

The Office Action states that "Cosgrove teaches that stainless steel conductive screws are well known electrodes for sensing potentials in the brain." However, Cosgrove Jr. et al. teaches that each screw used was a "*flat head* stainless steel screw," [Cosgrove, col. 11, l. 47] (emphasis added) without providing any additional information about the screw. Cosgrove et al. does not teach or suggest the use of skull screws that neither invade the brain nor extend beyond the scalp. Cosgrove Jr. et al. teach use of an ad hoc electrode made for a specific laboratory experiment on animals. It used a conventional flat head screw as an electrode. A *flat head* screw is a specific type of screw, which is different from a *skull* screw. This is demonstrated in Exhibit A, which includes catalog pages showing flat head screws from three different companies. As shown in Exhibit A, a flat head screw includes a threaded portion and an outwardly tapering head.

Although Cosgrove Jr. et al does not disclose sufficient detail about how its flat head screws are employed, it is reasonable to assume that the flat head portions of the screws extended beyond the scalp of the test animals (unless the researcher were to counter-sink the screw heads – which is certainly *not* disclosed in Cosgrove et al.). Having electrodes that are contained under the scalp (as with the present invention) of a test animal would be unnecessary given the short life span of laboratory animals used in the experiment disclosed in Cosgrove et al.

Applicant's invention, on the other hand, includes electrodes contained within the scalp, due to the use of skull screws having a length corresponding to the thickness of the cranium and due to the lack of an outwardly-tapering head. By having the electrodes (and a transponder) contained within the scalp there is a greatly reduced risk of infection. This feature is important, given that Applicant's invention is intended to be used by people over the course of many years.

Claims 1 and 6 have been amended to specify that the skull screws have a substantially constant outside diameter and a length that corresponds to the thickness of the cranium. The limitation of the substantially constant outside diameter ensures that the skull screws may be placed in a uniform hole in the cranium, while being compatible with the surfaces of the cranium. The length limitation ensures that the screws neither invade the brain, which could interfere with brain function, nor extrude substantially beyond the cranium, which would cause added discomfort to the user or added risk of infection.

Applicant's invention, as recited in amended Claims 1 and 6, provides the advantage over Pless et al. of employing a minimally invasive electrode system, and provides the advantage over Cosgrove et al. of employing a completely self-contained electrode and transponder system that can be used over a long period of time with minimal infection risks. Thus, Pless et al. and Cosgrove et al. do not teach or suggest, alone or in combination, a system that employs skull screws that neither invade the brain nor extend outside of the scalp, as is the case of the invention as claimed in amended Claims 1 and 6. Therefore, it is believed that this rejection has been overcome with respect to Claims 1 and 6, and Applicant respectfully requests that Claims 1 and 6,

and all of the claims depending therefrom, be allowed.

*Rejection of Claims 2 and 8:*

Claims 2 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Pless et al. (6,597,954) in view of Cosgrove Jr. et al. (4,533,346), further in view of Fischell et al. (6,647,296). In response thereto, Applicant believes that it has distinguished Pless et al. and Cosgrove Jr. et al from amended Claims 1 and 6. As Claims 2 and 8 take the limitations of Claims 1 and 6, respectively, Applicant believes the combination of these references, alone or in combination, neither teach nor suggest the inventions claimed in Claims 2 and 8. Therefore, Applicant respectfully requests that these claims be allowed.

## CONCLUSION

Applicant believes that the rejections have been overcome for the reasons recited above. Therefore, Applicant respectfully requests that all remaining claims be allowed and that a timely Notice of Allowance be issued.

No addition fees are believed due. However, the Commissioner is hereby authorized to charge any additional fees which may be required, including any necessary extensions of time, which are hereby requested, to Deposit Account No. 503535.

9/23/05
Date

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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being placed in the U.S. Mail on the date written below with sufficient postage to ensure its delivery to the Commissioner for Patents at the address listed above.

Bryan W. Bockhop

9/23/05
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